

verging ridges under the scales. Preorbital with a small spine, which is sometimes obsolete.

Preopercle with rather strong spines, the two at the angle longest. Opercle with two strong spines. Suprascapular spines present.

Gill-rakers numerous, long and very strong, their length half the diameter of the eye, their number about $\frac{9}{23}$.

Scales smaller than in most of the species, in about 66 transverse series.

Spinous dorsal low, the fourth to seventh spines highest, all lower than the soft dorsal, the fin not deeply emarginate. Third anal spine slightly longer than the second, but not so strong. Caudal fin emarginate. Pectoral fins long, reaching beyond the tips of the ventrals to the base of the tenth dorsal spine. Ventrals not reaching to the vent.

Fin rays: D. XII, 1, 15; A. III, 9.

Color slaty black, becoming lighter below the lateral line. Belly scarcely pale. Sides often somewhat mottled. Tip of lower jaw black. Top of head with three indistinct cross-bars: one in front of eyes, continued around anterior rim of orbit, and extending backwards across the cheeks; one between the orbits, reappearing below in a second oblique cheek-band; the third across occiput, extending obliquely backwards to the upper angle of the opercle. Fins plain dusky.

Peritoneum black, as in *S. ovalis*, *S. entomelas*, and *S. ciliatus*. In *S. melanops* and its near relative *S. flavidus* the peritoneum is always white.

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DESCRIPTION OF A NEW SPECIES OF PTYCHOCILUS (PTYCHOCILUS HARFORDI), FROM SACRAMENTO RIVER.

By DAVID S. JORDAN and CHARLES H. GILBERT.

Ptychochilus harfordi, sp. nov.

Allied to *Pt. oregonensis* (Rich.), but with much smaller scales.

Body long and slender, little compressed, the back not elevated, the caudal peduncle large and stout. Greatest depth of body contained $5\frac{3}{4}$ times in its length from snout to base of caudal. Head long, pike-like, subconic, rather slender, broad and depressed above. Length of head contained 4 times in length to base of caudal. Mouth terminal, oblique, the lower jaw somewhat projecting. Premaxillary anteriorly on the level of the eye. Maxillary, as in other species, closely adherent to the preorbital, except near its end, where it slips under the preorbital, its tip extending just beyond the vertical from the front of the eye. Length of cleft of mouth contained $2\frac{3}{8}$ times in length of head. Interorbital width $3\frac{3}{4}$ times in the length of head. Eye small, placed high, its diameter contained 3 times in the length of the snout, 10 times in that of the head. Cheeks very broad. Lips normal, as in other species of the

genus. Gill-rakers very short. Pseudobranchiæ large. Gill-membranes in one specimen united and wholly free from the isthmus; in the others joined as usual in *Cyprinidæ*. The condition in the first specimen is doubtless abnormal. Pharyngeal bones and teeth as in the other species of the genus; the teeth 2, 4-5, 2, slender, hooked, without grinding surface.

Scales 17-90-9, those on the back and belly rather smaller than the others, those on the breast imbedded. Lateral line very strongly decurved, its lowest point scarcely above the line of insertion of the pectoral fins.

Dorsal fin inserted at a point midway between eye and base of caudal, a little behind the insertion of the ventrals. Caudal short and deep, not strongly forked, the lobes equal, the accessory rays not numerous. Pectorals not large, extending three-fifths the distance to the ventrals, which reach two-thirds the distance to the vent. Anal fin small. Dorsal rays I, 8; anal I, 7.

This species reaches a length of nearly 3 feet. It is brought into the markets of San Francisco in considerable numbers in the winter, in company with the closely related and still larger species *Ptychochilus oregonensis* (*Pt. grandis* Ayres), with which species it has been hitherto confounded. The latter species is, however at once distinguished by its larger scales, the usual number being 12-75-5. *Ptychochilus rapax* Grd. has the larger scales of *Ptychochilus oregonensis*, and the lateral line is represented as little decurved, the scales more loosely imbricated; and *Pt. lucius* Grd., from the Colorado River, is represented as having the scales still smaller than in *Pt. harfordi*, while "*Ptychochilus vorax* Grd." is not a member of this genus at all, but belongs to the group called *Gila*.

We have named this species for Mr. W. G. W. Harford, curator of the California Academy of Sciences, who has taken much interest in the development of the ichthyology of California, and to whom the National Museum has been indebted for many favors.

The typical specimens, four in number, are entered as No. 27246 on the Museum Register. The largest one is about 18 inches in length, the others a little smaller. They were obtained by the writers in the San Francisco market, and were taken in the Sacramento River.

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NOTE ON *RAIA INORNATA*.

By DAVID S. JORDAN and CHARLES H. GILBERT.

Four species of the genus *Raia* are known from the Pacific coast of the United States. One of these was described by Girard, under the name of *Raia binoculara*, in the Proc. Acad. Nat. Sci. Phila., 1854, p. 196, and later under the name of *Uraptera binoculara*. The description con-